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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/511,200

Applicant(s)

FACCHINI, LIBERO

Examiner

Nicolas A. Arnett

Art Unit

4124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 18-22 is/are rejected.
- 7) ☒ Claim(s) 14-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S508)
- Paper No(s)/Mail Date 11 July 2005
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because of the use of legal phraseology. Correction is required. See MPEP § 608.01(b).

Claim Objections

3. Claims 1, 9, 11, 13, 16, 17, 20 and 21 are objected to because of the following informalities:

- a. in claim 1, "the dosing stations" lacks antecedent basis within the claims;
- b. in claim 9, "the dosing stations" lacks antecedent basis within the claims;
- c. in claim 10, "the channel for the internal pressurization" lacks antecedent basis within the claims;
- d. in claim 11, "the lower outlet aperture" in line 3, "the batch" in line 4 and "the upper aperture" in line 5 lack antecedent basis within the claims;

- e. in claim 13, "the lower flange" and "the preparation chamber" lack antecedent basis within the claims;
- f. in claim 16, "the gravity feed" lacks antecedent basis within the claims;
- g. in claim 17, "the suction feed" lacks antecedent basis within the claims;
- h. in claim 20, "the outlet apertures" and "the cyclical washing and sterilization stages" lack antecedent basis within the claims;
- i. in claim 21, "the base" lacks antecedent basis within the claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 9, 10, 11, 12, 13, 18 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. Regarding claim 9, the word "preferably" in line 6 renders the claim indefinite because it is unclear whether the limitations following the word are part of the claimed invention. Applicant must particularly point out whether or not the hopper is held at constant levels of pressure. See MPEP § 2173.05(d).
- b. Regarding claim 10, the phrase "if the product hopper rotates about its own axis" renders the claim indefinite because it is unclear whether the

limitations following the phrase are part of the claimed invention. Applicant must particularly point out whether or not the hopper rotates about its own axis. See MPEP § 2173.05(d).

c. Regarding claim 11, the phrases "can be" in line 7 and "preferably discharges through a filter and/or other suitable means" in line 21 render the claim indefinite because it is unclear whether the limitations following the phrases are part of the claimed invention. Applicant must particularly point out how the channel is connected, not how it "can be" connected. Applicant must particularly point out if a filter is used and if means for recovering any small traces of product is used in place of or in addition to the filter. See MPEP § 2173.05(d).

d. Regarding claim 12, the phrase "if required" in line 5 renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. Applicant must particularly point out if a level sensor is provided. See MPEP § 2173.05(d).

e. Regarding claim 13, the phrase "for example" in line 7 renders the claim indefinite because it is unclear whether the limitation(s) preceding the phrase are part of the claimed invention. Applicant must particularly point out that the plugs are of conical shape. See MPEP § 2173.05(d).

f. Regarding claim 18, the phrase "if necessary" in line 2 renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. Applicant must particularly point out if a maximum level sensor is provided. See MPEP § 2173.05(d). Claim 18 also recites the limitations "the level sensor" in line 3, "the preparation chamber" in line 4, "the automatic operation" in line 4, "all the valves" in line 5, "the signals" in line 6 and "the compensation chamber" in line 6. There is insufficient antecedent basis for these limitations in the claim. It is unclear if claim 18 should depend from claim 15 rather than claim 9.

g. Regarding claim 22, the phrase "can be" in lines 2 and 3 renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. Applicant must particularly point out if the shaft is axially hollow and used for sending compressed gas to the hopper. See MPEP § 2173.05(d).

The following prior art rejections are based on the claims as best understood by the examiner in view of the above rejections and objections.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 4, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 3,994,701 to Schweimanns (Schweimanns).

Schweimanns teaches:

In Reference to Claim 1

A process for feeding powdered, granular or herb-based product (finely comminuted solid fuel particles; Abstract) to the dosing stations (metering device 6) of compressing machines, capsule filling machines or packaging machines in general (col. 3, lines 14-20; the plenum chamber is a compressing machine), operating on either a continuous or an alternating principle (col. 1, lines 34-41; successive charges from the receptacle system the plenum chamber), in which the said product is placed in a loose state (col. 3, lines 21-28) in a hopper (vessel 4) to whose lower part the said dosing stations are connected (see Fig. 1), characterized in that the said hopper is pressurized internally with gas (col. 3, lines 14-16) at a specified level of pressure (pressure above atmospheric; abstract), in such a way that the product contained therein is impelled by the said pressure of the gas towards the said dosing stations (col. 2, lines 15-19).

In Reference to Claim 3

The process according to Claim 1 (see rejection of claim 1 above), characterized in that the dosing stations are designed to permit a controlled minimum discharge of gas

towards the exterior, to promote the flow of the product from the pressurized hopper towards the stations (col. 2, lines 2-24).

In Reference to Claim 4

The process according to Claim 3 (see rejection of claim 3 above), characterized in that the dosing stations discharge gas downwards (see Fig. 1 showing the downward flow), in such a way as to facilitate the subsequent removal of the small quantity of product which passes out together with the gas (col. 2, lines 2-24).

In Reference to Claim 8

Process according to Claim 1 (see rejection of claim 1 above), characterized in that the product hopper (4) is cyclically resupplied with a batch of product (col. 3, lines 21-28) through a compensation chamber (receptacle 3), located above the hopper (Fig. 1), which is at atmospheric pressure when it receives the batch of product (col. 3, lines 31-34) from feed means (magazine 1), and which is closed and pressurized to pressure levels at least equal to those of the hopper when the chamber is subsequently made to communicate with the said hopper for the transfer of the batch of product to the hopper (col. 3, lines 21-28).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schweimanns in view of US Patent 4,576,712 to Greenwood (Greenwood).

In Reference to Claim 2

Schweimanns teaches the process according to Claim 1 (see rejection of claim 1 above). Schweimanns further teaches that the product hopper (4) is pressurized internally with gas (col. 3, lines 14-16 and 40-45), in such a way as to promote a constant dosing of the said product in the various dosing stations (col. 2, lines 9-19).

Schweimanns does not teach that the product hopper pressurized internally with gas at constant levels of pressure.

Greenwood teaches a process and apparatus for control of gas flow through zones containing solid particulate matter (col. 1, lines 7-11) wherein a product hopper (zone 12) is pressurized internally with gas at constant levels of pressure (col. 1, lines 53-59) so that the process may operate in a continuous manner (col. 1, lines 50-52).

It would have been obvious to one having ordinary skill in the art at the time of invention to have modified the process of Schweimanns according to the teaching of Greenwood such that the product hopper is pressurized internally with gas at a constant level of pressure so that the process may operate in a continuous manner as taught explicitly by Greenwood.

In Reference to Claim 9

Schweimanns teaches an apparatus (abstract) for feeding powdered, granular or herb-based product (finely comminuted solid fuel particles) to the dosing stations (metering device 6) of compressing machines, capsule filling machines or packaging machines (plenum chamber 50 is a compressing machine), in which the said product is placed in a loose state (col. 3, lines 21-28) in a hopper (vessel 4), characterized in that it comprises a source (12) which feeds gas.

Schweimanns does not teach means connected to the inner part of the said hopper and connected externally to a source which feeds gas at specified levels of pressure to the said hopper and is silent as to how vessel 4 is maintained at an elevated pressure.

Greenwood teaches a process and apparatus for control of gas flow through zones containing solid particulate matter (col. 1, lines 7-11) comprising means (line 20) connected to the inner part (Fig. 1 shows the connection) of the said hopper (lower zone 12) and connected externally (Fig. 1) to a source which feeds gas (Fig. 1 shows gas entering line 20) at specified levels of pressure to the said hopper (col. 1, lines 53-59) so that the process may operate in a continuous manner (col. 1, lines 50-52).

It would have been obvious to one having ordinary skill in the art at the time of invention to have included means connected to the inner part of the said hopper and connected externally to a source which feeds gas at specified levels of pressure to the said hopper according to the teachings of Greenwood in the apparatus of Schweimanns

so that the process may operate in a continuous manner as taught explicitly by Greenwood.

In Reference to Claim 18

Schweimanns in view of Greenwood teaches the apparatus according to claim 9 (see rejection of claim 9 above). Schweimanns further teaches that the hopper (4) comprises minimum level sensors (col. 3, lines 21-25) which are connected, together with the level sensor (19) of the preparation chamber (1) to a processor (control devices 16 and 25).

Schweimanns does not teach a processor, which controls the automatic operation of all the valves of the said apparatus, and which receives the signals relating to the internal pressures of the hopper and of the compensation chamber through suitable interfaces and instruments, the said processor being connected to a programming and interrogation unit or a maximum level sensor.

Greenwood teaches a system comprising a maximum level sensor (col. 9, lines 32-36) and a processor (controller 22), which controls the automatic operation of all the valves (18 and 19) of the said apparatus (col. 9, lines 37-44), and which receives the signals relating to the internal pressures of the hopper and of the compensation chamber (col. 4, lines 19-36) through suitable interfaces and instruments (the valves and sensors), the said processor being connected to a programming and interrogation unit (col. 9, lines 53-63; the controller includes the programming and interrogation unit in

the form of the process control computer) to provide for continuous repetition of the process (col. 9, lines 37-52).

It would have been obvious to one having ordinary skill in the art at the time of invention to have included the processor, which controls the automatic operation of all the valves of the said apparatus, and which receives the signals relating to the internal pressures of the hopper and of the compensation chamber through suitable interfaces and instruments, the said processor being connected to a programming and interrogation unit and a maximum level sensor of Greenwood in the apparatus of Schweimanns to provide for continuous repetition of the process as taught explicitly by Greenwood.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schweimanns in view of US Patent 4,943,227 to Facchini (Facchini).

Schweimanns teaches the process according to Claim 1 (see rejection of claim 1 above), but does not teach that the dosing stations are of the volumetric type and are designed to produce abrupt increases in the volumes of their dosing chambers, to create a cavitation effect which facilitates the flow of the product from the pressurized hopper towards the stations.

Facchini teaches a compressing machine (abstract) comprising dosing stations (Fig. 5 shows the dosing station) of the volumetric type (col. 1, lines 29-36) and are designed to produce abrupt increases in the volumes of their dosing chambers, to create a cavitation effect which facilitates the flow of the product from the pressurized

hopper towards the stations (col. 5, lines 20-30) to provide a machine with higher productivity (col. 6, lines 55-57). It is noted that these dosing stations are Applicant's admitted prior art (see page 4, lines 3-12 of the instant application).

It would have been obvious to one having ordinary skill in the art at the time of invention to have replaced the metering stations of Schweimanns with the dosing stations of the volumetric type and designed to produce abrupt increases in the volumes of their dosing chambers of Facchini to provide a machine with higher productivity as taught explicitly by Facchini.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schweimanns in view of US Patent 3,693,840 to Starr (Starr).

Schweimanns teaches the process according to claim 1 (see rejection of claim 1 above), characterized in that the product located in the hopper is fluidized both by the gas used for the internal pressurization of the said hopper (col. 2, lines 9-24).

Schweimanns does not teach the product in the hopper is also fluidized by the action of appropriate mechanical means designed for this purpose.

Starr teaches an apparatus for dispensing granular product (abstract) wherein the product in the hopper (pressurized hopper 19) is fluidized by the action of appropriate mechanical means designed for this purpose (agitator 23) to break up lumps which may clog the apertures (col. 7, lines 29-38).

It would have been obvious to one having ordinary skill in the art at the time of invention to have added the fluidization by the action of appropriate mechanical means

(agitator) of Starr to the process of Schweimanns to break up lumps which may clog the apertures as taught explicitly by Starr.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schweimanns in view of International Application Publication WO 99/48757 to Deboy (Deboy).

Schweimanns teaches the process according to Claim 1 (see rejection of claim 1 above), but does not teach that the dosing stations are designed for the application of suction in their dosing chambers, to promote the flow of the product from the pressurized hopper towards the stations.

Deboy teaches a product packaging method (abstract) comprising dosing stations (bagging station 13) designed for the application of suction in their dosing chambers, to promote the flow of the product from the pressurized hopper towards the stations (page 11, lines 18-23).

It would have been obvious to one having ordinary skill in the art at the time of invention to have modified the dosing stations of Schweimanns according to the teachings of Deboy such that the dosing stations are designed for the application of suction in their dosing chambers, to promote the flow of the product from the pressurized hopper towards the stations as taught explicitly by Deboy.

9. ClaimS 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schweimanns in view of Greenwood as applied to claim 9 above, and further in view of US Patent 5,647,690 to Landau (Landau).

In reference to claim 10

Schweimanns in view of Greenwood teaches the apparatus according to Claim 9 (see rejection of claim 9 above). Schweimanns further teaches that said hopper (4) is provided axially with an upper aperture (opening where conduit 8 enters vessel 4) which is connected to a channel (8) for the cyclical feed of the product (col. 3, lines 21-28) and intercepted by a normally closed valve (7).

Schweimanns does not teach that if the product hopper rotates about its own axis (examiner has interpreted the claim as claiming a hopper which rotates about its axis in view of the rejection of claim 10 above) by means of a rotary joint which is supported by a fixed supporting frame and the channel for the internal pressurization of the chamber being connected in the form of a branch to the portion of channel lying between the rotary joint and the said valve.

Landau teaches a pressurized hopper (12; col. 3, lines 17-19) for granular material (col. 1, line 6) wherein the product hopper rotates about its own axis (col. 3, lines 35-39) by means of a rotary joint (rotary joint is shown in Fig. 3 and 4 between the hopper 12 and carriage 5) which is supported by a fixed supporting frame (carriage 5) and the channel (26) for the internal pressurization of the chamber being connected in the form of a branch to the portion of channel lying between the rotary joint and the said

valve (Fig. 4 shows the channel 26 as a branch between the rotary joint and the valve) to reduce loss of material and pressure from the system (col. 2, lines 44-49).

It would have been obvious to one having ordinary skill in the art at the time of invention to have modified the hopper of Schweimanns according to the teaching of Landau such that the hopper rotates about its own axis by means of a rotary joint which is supported by a fixed supporting frame and the channel for the internal pressurization of the chamber being connected in the form of a branch to the portion of channel lying between the rotary joint and the said valve in order to reduce loss of material and pressure from the system as taught explicitly by Landau.

In Reference to Claim 11

Schweimanns in view of Greenwood and Landau teaches the apparatus according to claim 10 (see rejection of claim 10 above). Schweimanns further teaches the channel (8) for feeding the product to the hopper (4) is connected to the lower outlet (opening where conduit 8 joins receptacle 3) aperture of a compensation chamber (receptacle 3) located above the hopper (see Fig. 1) and having a volume suitable for containing the batch of product (col. 3, lines 5-8) which has to be fed cyclically to the said hopper (col. 3, lines 21-28), the upper aperture (opening between conduit 10 and receptacle 3) of this chamber being connected, through a valve (9), to means of feeding the product (magazine 1), and the said chamber being connected to a channel (11 and 18) which can be connected (interpreted by the examiner as "is connected"), through valve means (51 and 17), to an environment at atmospheric pressure (col. 3, lines 57-65) or to a source (12) for delivering gas at pressure levels equal to or slightly greater

than the internal pressures of the hopper (col. 3, lines 40-45), the whole being arranged in such a way that the compensation chamber can be brought to atmospheric pressure when the batch of product has been fed into it through its upper aperture opened by the corresponding valve (col. 3, lines 28-39), and means being provided to ensure that, on completion of the loading of the product, the upper valve of the compensation chamber is closed (Schweimanns does not specify the means by which the valves are opened and closed, but it is inherent that some means controls the valves), the depressurization valve (17) is closed and the valve (51) connecting the compensation chamber to the pressurization source (12) is opened, means also being provided to ensure that, when the compensation chamber has been pressurized, the valve (8) connecting this chamber to the hopper (4) is opened (it is inherent that means is provided for controlling the valves) in such a way that the batch of product flows into the said hopper (col. 3, lines 21-28), means being provided after this to ensure that this valve (7) is closed (col. 3, lines 37-39) and the compensation chamber (3) is depressurized (col. 3, lines 52-62) by the opening of the said valve (17) which preferably discharges through a filter or other suitable means of recovering any small traces of product (separator 24).

In Reference to Claim 12

Schweimanns in view of Greenwood and Landau teaches the apparatus according to Claim 11 (see rejection of claim 11 above). Schweimanns further teaches that the means (1) of feeding the product to the compensation chamber (3) comprise a preparation chamber (1) which is located above the compensation chamber (see Fig. 1)

and which has a volume suitable for containing a batch of product (col. 2, lines 65-68), and which is connected at its top (see Fig. 1) to means (container 60 and pipe 2) of feeding the product and is provided, if required, (examiner has interpreted this claim without the words "if required") with at least one sensor (19) for detecting the specified level of product in this chamber, the said feed means being automatically stopped when this level is reached (col. 4, lines 6-17).

10. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schweimanns in view of Greenwood as applied to claim 18 above, and further in view of US Patent 5,431, 198 to Turtschan (Turtschan).

Schweimanns in view of Greenwood teaches the apparatus according to Claim 18 (see rejection of claim 18 above) but does not teach characterized in that the processor (22 of Greenwood) which controls the automatic operation of the said apparatus is provided with a program which keeps both valves (7 and 9 of Schweimanns), for connecting the hopper to the compensation chamber and for connecting the latter to the preparation chamber, open when washing fluids are passed through the whole apparatus.

Turtschan teaches a product filling machine including a program (clean-in-place mode) which keeps both valves open when washing fluids are passed through the whole apparatus (col. 6, line 54 - col. 7, line 29) to provide for easy cleaning of the apparatus (col. 1, lines 17-37).

It would have been obvious to one having ordinary skill in the art at the time of invention to have included the cleaning program which keeps both valves, for connecting the hopper to the compensation chamber and for connecting the latter to the preparation chamber, open when washing fluids are passed through the whole apparatus of Turtschan in the apparatus of Schweimanns as modified by Greenwood to provide for easy cleaning of the apparatus as taught explicitly by Turtschan.

11. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schweimanns in view of Greenwood as applied to claim 9 above, and further in view of US Patent 4,215,803 to Schafer (Schafer).

In Reference to Claim 20

Schweimanns in view of Greenwood teaches the apparatus according to claim 9 (see rejection of claim 9 above). Schweimanns further teaches that the product hopper (4) is round in plan view (see Fig. 1) and is formed by a lower bowl (lower portion of vessel 4) and which is covered by a conical and upwardly converging cover (cover shown in Fig. 1 at top of vessel 4).

Schweimanns as modified by Greenwood does not teach the product hopper which has a base raised towards the centre in such a way as to promote the flow of the product towards the perimeter of the base bowl of the said hopper, where the outlet apertures are provided *to feed the product to the dosing stations of the compressing, capsule filling or dosing machine, this shape of the hopper also being helpful in ensuring full and uniform internal cleaning of the hopper during the cyclical washing and*

sterilization stages (statement of intended use: it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987)).

Schafer teaches a product hopper (10) having a base raised towards the centre (see Fig. 3) in such a way as to promote the flow of the product towards the perimeter of the base bowl of the said hopper (col. 3, lines 34-45), where the outlet apertures are provided (16) so that an impeller may be provided centrally within the hopper (col. 3, lines 51-54) which aids the product in flowing freely (col. 2, lines 1-5).

It would have been obvious to one having ordinary skill in the art at the time of invention to have modified the apparatus of Schweimanns as modified by Greenwood such that the product hopper which has a base raised towards the centre in such a way as to promote the flow of the product towards the perimeter of the base bowl of the said hopper, where the outlet apertures are provided according to the teachings of Schafer so that an impeller may be provided centrally within the hopper which aids the product in flowing freely as taught explicitly by Schafer.

In Reference to Claim 21

Schweimanns in view of Greenwood teaches the apparatus according to claim 9 (see rejection of claim 9 above), but does not teach that the base of the hopper is provided axially with an aperture through which passes, with a seal, a shaft which carries, on its end located inside the hopper, blades which mix and slowly fluidize the

product placed in the said hopper, means being provided to impart to the said shaft a slow rotary motion relative to the said hopper.

Schafer teaches a hopper (10) wherein the base (bottom wall 22) is provided axially with an aperture (col. 3, lines 51-54) through which passes, with a seal (col. 3, lines 51-54), a shaft (24) which carries, on its end located inside the hopper (see Fig. 3), blades (impeller 12) which mix and slowly fluidize the product placed in the said hopper (col. 2, lines 1-5), means being provided to impart to the said shaft a slow rotary motion relative to the said hopper (drive motor 14) to facilitate dispensing from the hopper (col. 2, lines 6-11).

It would have been obvious to one having ordinary skill in the art at the time of invention to have included the base of the hopper provided axially with an aperture through which passes, with a seal, a shaft which carries, on its end located inside the hopper, blades which mix and slowly fluidize the product placed in the said hopper, means being provided to impart to the said shaft a slow rotary motion relative to the said hopper of Schafer in the apparatus of Schweimanns as modified by Greenwood to facilitate dispensing from the hopper as taught explicitly by Schafer.

12. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schweimanns as modified by Greenwood and Schafer as applied to claim 21 above, and further in view of British Patent 652,662 to Every (Every).

Schweimanns as modified by Greenwood and Schafer teaches the apparatus according to Claim 21 (see rejection of claim 21 above), but does not teach that the

shaft carrying the blades for fluidizing the product in the hopper can be axially hollow and can be used for sending compressed gas into the said hopper, as an alternative to or in combination with the aforesaid means.

Every teaches a product hopper (tank 1) having a shaft (2) carrying the blades (pipes 20 serve as blades) for fluidizing the product in the hopper can be axially hollow (page 2, lines 41-42) and can be used for sending compressed gas into the said hopper, as an alternative to or in combination with the aforesaid means (page 2, lines 41-58) to aid in the dispensing of product from the hopper (page 2, lines 41-58).

It would have been obvious to one having ordinary skill in the art at the time of invention to have modified the apparatus of Schweimanns as modified by Greenwood and Schafer such that the shaft carrying the blades for fluidizing the product in the hopper can be axially hollow and can be used for sending compressed gas into the said hopper according to the teaching of Every to aid in the dispensing of product from the hopper as taught explicitly by Every.

Allowable Subject Matter

13. Claim 13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

14. Claims 14-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach apertures in the chambers which are closed by plugs and rods and maintained in a closed position by the pressure in the chambers. The prior art also does not teach the use of hollow spokes within the chambers as channels for connecting the pressure chambers to the external valves.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 5,797,435 to Wada, US Patent 5,738,153 to Gerling et al., US Patent 4,955,989 to Mink, US Patent 6,581,653 to Servadei, US Patent 4,067,623 to Klein et al., and US Patent 4,482,275 to Shinozaki et al. disclose systems having features similar to those claimed by Applicant.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICOLAS A. ARNETT whose telephone number is (571)270-6062. The examiner can normally be reached on Monday - Thursday 7:00 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Bomberg can be reached on (571) 272-4922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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NAA
/Thor S. Campbell/
Primary Examiner, Art Unit 3742